DOCUMENT RESUME

ED 024 834

VT 007 621

By- Shontz, David F.
Abstracts of Research Studies in Agricultural Education Completed in 1967-68 in the North Atlantic Region.
Pub Date 68
Note- 61p.
EDRS Price MF-$0.50 HC-$3.15
Descriptors- *Abstracts, *Agricultural Education, *Annotated Bibliographies, Doctoral Theses, *Educational Research, Masters Theses, *Research Projects

The 58 research studies in agricultural education completed in 1967-68 in the North Atlantic Region of the American Vocational Association are abstracted in this mimeographed document. Each abstract contains the research study's purpose, method, and major findings. Masters theses, staff studies, and doctoral dissertations are included. (DM)

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ABSTRACTS OF RESEARCH STUDIES IN AGRICULTURAL EDUCATION COMPLETED IN 1967-68 IN THE NORTH ATLANTIC REGION

Submitted in the Format of
the Series Known as
Summaries of Studies in Agricultural Education

Prepared by
David F. Shontz, Regional Chairman
North Atlantic Research Committee
University of Rhode Island, Kingston, R. I.

for Distribution at the
North Atlantic Regional Seminar and Research Conference
University of Maryland, College Park, Md.
November 6-8, 1968

VT007621

ACKLEY, CHARLES E., JR. Electrical Competencies in Agricultural Mechanics Needed by Farmers. Paper, M.Ed., 1968, The Pennsylvania State University. 86 p. Library, The Pennsylvania State University, University Park.

Purpose-- To provide teachers of agriculture with farm electrification information for developing the farm mechanics course of study for young-adult farmers. The objectives were: (1) to develop a list of electrical competencies needed by farmers, (2) to determine degree of electrical competency needed and possessed by farmers, and (3) to factor the competencies into groups.

Method-- An interview schedule listing 50 electrical competencies and providing for general information was designed. It was administered to selected power company specialists, agriculture teachers, and farmers who rated farmers for degree of electrical competency needed and possessed.

Statistical treatment of the data was accomplished through symmetric correlation and factor analysis with varimax rotation. A descriptive analysis of informational data was also performed to increase the value of the study in educational applications.

Findings-- Results of the statistical analysis indicated that there were meaningful competency factor groups at the "needed level." The seven factor groups were:

1. Selecting and installing electric motors and generators.
2. Understanding circuit protection and safety.
3. Installing the farm electrical system.
4. Understanding electrical circuits.
5. Maintenance of the farm wiring system.
6. Designing a farm electrical system.
7. Care and maintenance of electric motors, emergency power generators, and automatic controls.

Descriptive analysis revealed that farmers need more competency in some items than in others. Also, the amount of instruction needed by farmers varies among different types of competencies. The degree of competency needed was greater in the area of basic electrical knowledge and skills than in major electrical installation. The data also revealed that farmers with over 20,000 KWH consumption of electricity per year had the greatest need for competency, farmers under 10,000 KWH consumption were second highest, and farmers with 10,000-20,000 KWH consumption had the lowest rating for competency needed.

The research findings provided a teaching outline in farm electrification through factor analysis of competencies into logical teaching groups. The factor groups can be arranged into a logical sequence to form an outline of seven problem areas in the farm electrification unit for the agricultural production course of study.

BARBER JR., WILLIAM G. The Educational Needs of High School Dropouts in Newport as Indicated by Teachers, Youth Leaders, Employers, and Early School Leavers. Thesis, M.S., 1968, Universtiy of Rhode Island. 87 p. Library, University of Rhode Island, Kingston.

Purpose-- The purpose of this study was to determine the educational and vocational needs of high school dropouts who have been out of school from one to three years in the city of Newport, R.I.

Method-- In order to test the null hypothesis which stated that there was no agreement among teachers, youth leaders, employers, and dropouts as to common educational needs of early school leavers, a questionnaire was developed which consisted of four parts: (1) an attitude survey concerning the educational and vocational needs of dropouts, (2) a performance inventory, (3) a personal characteristics scale and (4) five open-ended questions concerning the current needs of those students who fail to complete high school.

The teachers were randomly sampled from the staff at Newport's Rogers High School. Youth leaders were those professional personnel working for youth-serving agencies, including churches in the city of Newport. The employers were randomly sampled from those listed in the city telephone directory. The dropouts were contacted through the high school and other community agencies. Each dropout was interviewed personally by the writer.

The attitude inventory scale was tested statistically using analysis of variance. As a result of this statistical treatment, the null hypothesis was rejected. There was mutual agreement among the four groups of citizens concerning the need for improved educational and vocational programs for dropouts. Now that they were out of school from one to three years, most of the early school leavers were dissatisfied, particularly with their low-paying jobs.

Findings-- The results of the study indicate the need for a concerted effort on the part of all interested citizens and agencies to develop programs and methods of implementing them. A youth development council could work to generate such programs as basic education, training in the needed skills, guidance and counseling on a one-to-one basis and work-study programs. Articulation between academic and vocational learning should be emphasized to aid in the development of the individual to his fullest capacity. Efforts should also be made to secure specially-trained teachers and to make better use of school facilities. School and other community agency personnel must make additional efforts to help reduce the number of early school leavers by utilizing more effective methods of teaching and creating more favorable attitudes towards education.

This study has shown that teachers, youth leaders, employers and dropouts are in agreement that challenging educational programs are needed to meet the requirements of early school leavers. Further study is required to determine the procedures necessary to bring about these programs.

BARWICK, RALPH P. and BICKNELL, G. HARRY. Agricultural Profile of Laurel Special School District, Sussex County, Delaware, Staff Study, 1967, University of Delaware. 12 p. Agricultural Education Department, University of Delaware, Newark.

Purpose--To determine the importance of on-farm agricultural production and agriculturally-related business in the Laurel Special School District and the need for workers having agricultural education.

Method--A random sample of approximately ten per cent of the farms in the district was compiled and personal interviews were conducted to collect the data concerning on-farm agricultural production. A 100 per cent sample was used in collecting the data concerning the agriculturally-related businesses. Again, personal interviews were used in collecting the data. N equaled 36 farms and 13 businesses.

Findings--(1) Annual gross income from on-farm agricultural production was approximately $11,117,000. (2) Fifty-three per cent of the agriculturally-related businesses reported gross annual sales of $500,000 and over. (3) A total of 840 on-farm agricultural production workers was identified - 415 full-time and 425 part-time workers. (4) There were 519 persons employed in agriculturally-related businesses and industries. (5) A minimum of 61 additional full-time persons will be needed in the broad field of agriculture in the district in the next five years - 31 on farms and 30 in the related businesses. (6) The results of this survey indicated future agricultural workers will need more training in records and accounts, agricultural chemicals, poultry science, agricultural mechanics, farm building construction, and human relations.

BAY, WALTER C. Personal and Social Development of 4-H Club Members in Maryland. Thesis, M.S., 1967, University of Maryland. 63 p. Library, University of Maryland, College Park.

Purpose-- The purpose of the study was to determine (1) which 4-H programs and activities were related to the personal and social development of the individual participant, and (2) whether 4-H Club Extension Agents were able to recognize and select individuals who were personally and socially well adjusted.

Method-- The California Test of Personality, the Purdue Non-Language Test and life history questionnaire were administered to 197 4-H club members in Maryland. The subjects were placed in groups based on information obtained from the questionnaire. Differences between the means of these groups on the California Test of Personality were tested with the one-way analysis of variance. Pearson's r was used to determine relationships between variables.

Findings-- 1. Extension agents were able to recognize and select individuals who were personally and socially well adjusted.

2. Extension agents did not differ significantly in their ability to select 4-H Club members who were personally and socially well adjusted.

3. 4-H girls were better socially adjusted than were boys.

4. Older 4-H'ers were better adjusted personally than were younger members.

5. Length of membership in club work was not related to the personal and social adjustment of Maryland 4-H Club members.

6. The number of 4-H offices held was slightly related to personal and social adjustment of Maryland 4-H Club members.

7. Membership in organizations other than 4-H was related to the social adjustment of 4-H Club members.

8. Holding offices in organizations other than 4-H was related to the social adjustment of 4-H Club members.

9. Place of residence was not a factor in the personal and social adjustment of 4-H Club members.

10. The number of projects carried to completion was not related to the personal and social adjustment of 4-H Club members.

11. The number of awards received was not related to the personal and social adjustment of 4-H Club members.

BENSON, ROBERT T. An Experiment of In-service Teacher Education Employing Selected Instructional Media Related to Control Devices in Agricultural Automation. Thesis, D.Ed., 1968, The Pennsylvania State University. 118 p. Library, The Pennyslvania State University, University Park.

Purpose-- The purposes of the study were: (1) to develop teaching materials related to automatic control devices, (2) to evaluate the materials in teaching situations with agriculture students, and (3) to investigate the effects of formal in-service teacher education classes and differing amounts of instructional materials on teacher learning and student achievement.

Method-- Teaching materials in the form of a student resource unit student laboratory manual, and teacher unit plan titled, *Controls for Automation in Agriculture*, were developed. Formal in-service teacher education classes were conducted and 18 of the teachers enrolled were selected for the study. Eighteen other teachers who expressed an interest in the project were selected.

In each group teachers were randomly assigned to one of three amounts of teaching materials: (1) student resource unit, (2) student resource unit, student laboratory manual and teacher unit plan, and (3) student resource unit, student laboratory manual, teacher unit plan and visual materials. Statistical procedures used were symmetric correlation, single and multiple classification analysis of variance, analysis of covariance, Duncan's multiple range test and the correlated *t*-test.

Findings-- The study can be summarized as follows: (1) receiving or not receiving formal in-service teacher education when the amounts of teaching materials furnished to the teachers were not considered, had no differential effect on teacher learning or on student achievement, (2) the students of teachers with a medium level of involvement with automatic controls scored higher at the .05 level than students of teachers with a low level of involvement, (3) students of teachers who received all instructional materials in conjunction with in-service classes scored higher at the .01 level than students of teachers with similar teaching materials but who received no in-service classes, (4) students who were currently or previously enrolled in a high school physics course scored higher at the .05 level than students who had not taken high school physics, (5) student I.Q. correlated with the test score, (6) the students of teachers with from one to three years of teaching experience scored higher at the .01 level than the students of teachers with four or more years of teaching experience, and (7) students who resided on farms made higher scores at the .01 level than students who resided in urban situations.

BOMA, ALARIC NIKUT. A Study for Establishing Guidelines for Agricultural Education Programs in West Cameroon. Thesis, M.S., 1968, Cornell University. 107 p. Library, Cornell University, Ithaca.

Purpose-- The purpose was to develop guidelines for an Agricultural Education program in West Cameroon in the areas of primary, secondary, and out-of-school youth education, and teacher education.

Method-- The related literature was reviewed. A six-man Advisory Council composed of Departmental Heads and Ministerial level officers with policy making power was formed and a questionnarie was sent to gather data on the need and resources for the program. Guidelines were then developed.

Findings-- Guidelines were developed for the general program and for the areas of primary, secondary, out-of-school youth, and teacher education. The general program guidelines included the areas of program planning, evaluation, course offerings, organization and administration, finance, teacher training, staffing, guidance, research, and public relations.

The Primary School Guidelines proposed orientation toward the economic importance and image of agriculture and practical work by teacher and students. Work experience programs were emphasized for the success of agriculture at this level. Other areas included in the guidelines were knowledge, skills, and abilities for competency in agriculture, building equity, sources of financing agriculture, leadership abilities, environmental appreciation, and participation in the corporate life of the community.

The Secondary School Guidelines were similar to the primary with increased emphasis on agricultural sciences and the individual school farm plot concept as an experience program.

The Out-of-School Guidelines emphasized a situational analysis to determine the educational needs of youth in agriculture and experiences gained on the home farm. Group and individual instruction were to be provided through problem solving techniques. Development of leadership through the formation of Young Farmer Associations and other group activities was necessary.

In teacher education guidelines were developed in the areas of professional orientation, subject matter content, methods and materials in agricultural education, guidance and counseling, program evaluation, leadership role, and public relations.

BROFEE, MERRIL L. Agricultural Machinery Salesman, Partsman, and Gasoline Tractor Engine Mechanic: A Pilot Program. Paper, M.Ed., 1968, The Pennsylvania State University. 45 p. Library, The Pennsylvania State University, University Park.

Purpose-- To organize and test an occupational education program in agricultural mechanics in a comprehensive rural high school to complement a successful program in agricultural production and to obtain data useful to future pilot programs in other instructional areas in agriculture.

Method-- A proposal was submitted to the State Department of Public Instruction and funded under Section 4 (a) of P.L. 88-210. A third instructor was added in agriculture at Mifflinburg High School and necessary shop equipment and other instructional materials added to the facilities of a successful farm mechanics program. Course outlines were prepared for special classes in 11th and 12th grades. Arrangements for counseling and enrollment were made with school administration, the guidance department, and the State Employment Service. Local farm equipment dealers cooperated.

Findings-- Twelfth grade classes of ten to eighteen students were graduated each year of the three-year pilot program. The courses are being continued as a regular part of the school curriculum. Total enrollment in agriculture in 1968-69 includes ninety high school students. Before the pilot program the average was fifty-five. The young adult farmer group continues at sixty men; their classes in mechanics have benefited from the special program.

The boys enrolled in the special classes to prepare for employment as an agricultural mechanics salesman, partsman, or mechanic were not significantly different from all boys on high school fifth or scholastic aptitude but were higher on the GATB test in mechanics areas and had high scores on the Vocational Agriculture Interest Inventory. No student enrolled transferred out or failed to be graduated. Eighty percent obtained first employment in which the special training was usable or required.

Major course units included human relations, organization, management, and sales activities in an agricultural mechanics dealership. Laboratory units were tractor tune-up and maintenance, implement service and operation, gasoline tractor engine systems, repair and overhaul. Teaching plans and student learning experiences were adjusted as the pilot program was continuously evaluated.

BROWN, JOSEPH N. Personal Learning Experienced During the Process of Determining the Pre-Service and In-Service Educational Needs of the Staff Employed at a Boys' and Girls' Training School. Supervised Field Practicum, M.A., 1968, University of Rhode Island. 33 p. Education Department, University of Rhode Island, Kingston.

Purpose-- The main purpose of the practicum was to become acquainted with the process of setting up an educational training program based upon the needs of the participants. A secondary purpose was to determine what educational training program should be initiated to help develop Youth Home Life Supervisors and other staff members.

Method-- The existing in-service program and other programs available for training school personnel were assessed by the writer. He also reviewed the personnel qualifications for the present correctional staff positions and arranged an interview schedule to solicit the opinions of State Correctional Administrators as to the priority of Staff Training Needs.

A Personnel Inventory questionnaire was distributed to all Youth Home Life Supervisors. As a result of this survey, arrangements were made to hold a planning institute in order to acquaint the staff members with various training ideas and to give them an opportunity to react.

At the planning institute a short general session was held after which the staff members were divided into smaller discussion groups with a chairman and recorder for each group. Following the small group meetings, the writer interviewed several members of the staff individually and held an evaluation meeting with the practicum supervisors to determine the key areas of concentration in regard to staff training needs. The writer also worked closely with a state-wide advisory committee to determine possible ways of implementing a training program for the staff.

Findings-- Observations and feedback:

1. Thorough, systematic pre-planning with all people concerned is essential in order to secure their cooperation.
2. The author learned the value of being a good listener as the interviews progressed.
3. Carefully worded surveys are needed to convey to the respondents the meanings intended by the writer.
4. Real insight as to training needs was evident on the part of many staff members.
5. The writer learned that it was necessary to be objective and to formulate conclusions based on concrete evidence.
6. Subject areas needing emphasis: Organizational structure; two-way channels of communication; roles of staff and supervisory personnel; dynamics of human behavior; roles of and treatment by custodial personnel; and changing trends and policies in correctional practices.

BROWN, JUNIOUS D. An Analysis of Factors Which Influenced Freshmen and Junior College Students and First-Year Instructors of Vocational Agriculture in North Carolina in Their Decision to Prepare to Teach Vocational Agriculture. Thesis, M.S., 1968, University of Maryland. 132 p. Library, University of Maryland, College Park.

Purpose-- To determine the degree of influence of selected factors on the decision of freshmen and junior college students and first-year instructors of vocational agriculture in North Carolina to prepare to teach vocational agriculture.

Method-- An opinionnaire was administered to college freshmen and juniors and first-year instructors of vocational agriculture to secure information on 49 possible factors of influence. There were 20 college freshmen, 36 juniors and 30 first-year instructors of vocational agriculture.

The chi-square test was used to determine whether there were significant differnnces among the responses of freshmen, juniors and first-year teachers of vocational agriculture.

Findings-- 1. Persons who had the most influence were: (a) self, (b) high school vocational agriculture instructor, (c) father, (d) mother, (e) brother, and (f) college professor.

2. Factors other than people which had the most influence were: (a) desire to work with farm people, (b) experiences in farming or other agricultural occupations, (c) desire to work with rural youth, (d) opportunities for employment in agriculture, (e) high school vocational agriculture courses, and (f) security of agricultural occupations.

3. The factors of personal information which were almost similar in percentages for the three groups were: (a) experiences farm and non-farm, (b) area lived in most of life, (c) local FFA officer, (d) years of high school vocational agriculture, (e) father enrolled in an adult or young farmer class, (f) state FFA officer, (g) mother enrolled in adult or young farmer class, (h) occupation of mother, (i) occupation of father, and (j) grade decision was made to prepare to teach vocational agriculture.

4. There were no significant differences based on the chi-square test among the three groups regarding the degree of influence of the various factors on the decisions to prepare to teach vocational agriculture.

BRUCE, JOHN P. Comparative Study of the Effect of Certain Personal Characteristics on the Rank of Success Given Farm Machinery Sales and Service Employees. Thesis, M.S., 1967, University of Maryland. 74 p. Library, University of Maryland, College Park.

Purpose-- To determine the effect of certain biographical and personality characteristics on the success of farm machinery sales and service employees.

Method-- The full line of farm machinery businesses were surveyed in nine counties of Eastern Maryland.

Twenty-one employers ranked 102 employees according to the degree of success the employees had achieved in their jobs. The employees completed biographical data sheets and the Gordon Personal Inventory and Profile Measures.

Standardized scores and quartile rankings were established for the population scores on the personality measure. Chi-square was used for analyzing the data.

Findings-- 1. Biographical characteristics have no significant value as a determinant of success for farm machinery sales and service employees. 2. The personality traits of ascendancy, responsibility, cautiousness, original thinking and personal relations have a positive relationship to the rank of success given farm machinery sales and service employees. 3. The personality traits of emotional stability, sociability and vigor have no significant relationship to the ranking of success for farm machinery sales and service employees.

BUILA, THEODORE. Agricultural Education in Yugoslavia. Thesis, Ph. D., 1968, Cornell University. 305 p. Library, New York State College of Agriculture, Cornell University, Ithaca.

Purpose-- To document the development and current operation of Yugoslav programs in agricultural education and manpower development.

Method-- The study was conducted in four phases in Yugoslavia and at Cornell University. The time period involved extended from the summer of 1965 to the spring of 1968. Included in the sample populations of Yugoslav agricultural schools were 87 directors, 159 agricultural teachers, 450 students, 824 graduates (from the 1961 and 1966 classes), 340 agricultural firms, and each republic office of the Workers' and People's University. In addition to documenting the current formal programs, information was collected in the following areas: occupational pattern of graduates, occupational migration, on and off-job dissonance factors, hiring plans of agricultural firms, and agricultural manpower planning data.

Findings-- Educational programs for local farmers were gradually developed by the agricultural societies founded in the 1780's at Ljubljana, Split, and Zadar. Actual course work in agriculture was incorporated in elementary level schools about this same time. Between 1860 and 1918 no less than 30 agricultural schools were opened in Yugoslavia.

During the inter-war period (1918-1940) agricultural school numbers increased to fifty-six. Three levels of agricultural schools emerged: lower secondary, secondary, and college. Continuation agricultural programs were offered at the village level reaching peak activity in the late 1930's. During this period the agricultural extension service was made operational in each of the territories.

In the late 1950's administration of agricultural schools was decentralized with each school becoming self-managed by an "in-house" Teachers Committee. In 1966-67, approximately 90 schools offered specialized agricultural instruction on the college, junior college, secondary, and lower secondary levels. The primary objective of instruction is the training of professional cadre for employment in the socially-owned and managed sector of agriculture. Total enrollment, in the formal network of agricultural schools is about 25,000; informal programs catered to approximately 400,000 rural Yugoslavs in 1966. These programs were offered by agricultural firms and the Workers' and People's Universities.

Curriculums are comprised primarily of agricultural subjects. The ratio of agricultural to general subjects is two to one. A one month agricultural work practice session is obligatory through the junior college. Two-thirds of the schools own farms with an average size of 225 acres. Agricultural machinery is in short supply with most students indicating only limited "on-machine" time. Two-thirds of the schools are residential.

Most agricultural instructors have attended an agricultural college. However, agricultural colleges do not offer course work specifically designed to train agricultural teachers or extension personnel. In-service educational programs are offered on a republic basis with attendance quite limited.

Of particular significance was the finding that over 80 per cent of the graduates (1961 and 1966 generations) are currently employed in agricultural occupations.

A strong social-psychological attachment to family and/or geopolitical region was identified with over 72 per cent of the graduates continuing to reside no further than 25 kilometers from their childhood homes. Those who did migrate generally moved to more productive counties with more advanced communications systems.

Occupational dissonance was most frequently expressed in terms of: lack of modern equipment, limited recreational facilities, shortages in modern housing, and low salary. The occupational outlook for the approximately 5,000 students graduating annually is uncertain. An extrapolation of employment trends during the past five years indicates approximately 1,500 graduates will be dependent on the creation of new positions or a favorable shift in the ratio of trained to untrained personnel.

Among the key issues which Yugoslav agricultural education will face are: (a) developing programs designed to meet the needs of the new generation of private farmers, (b) continued improvement of formal and adult-oriented programs, (c) providing additional finances for school operation and improvement, (d) establishing agricultural teacher and extension agent programs, and (e) developing an occupational placement program for graduates.

CHADOCK, GERALD RAY. Vocational Education Needs in Grant County, West Virginia. Problem, M.S., 1968, West Virginia University. 60 p. Library, West Virginia University, Morgantown.

Purpose-- The purpose of this study was to determine the needs for vocational education in Grant County with implications for use in developing curriculum content for the new South Branch Vocational - Technical Center being located in Petersburg, West Virginia.

Method-- Data for this study were gathered through the use of student vocational interest surveys administered to students in grades nine through twelve in the two county high schools; survey forms sent to selected group of parents;surveys administered to the major businesses and industries in the county; personal interviews; and a survey of pertinent literature and records.

Findings-- Eighty per cent of the high school students surveyed expressed a desire to enroll in a vocational - technical program as a part of their regular high school course of study. The six areas of highest occupational interests were auto mechanics, clerical workers, beauty culture, practical nursing, welding and forestry. Thirty-two per cent of the students surveyed plan to enter college, leaving sixty-eight per cent in need of further vocational training.

Eighty per cent of the parents surveyed indicated a desire to have their children enroll in a vocational education program as a part of their regular high school program. Sixty-one per cent of the parents themselves were interested in taking courses for the following reasons: to improve trade, industrial or technical skill and knowledge; to complete high school graduation; to enter into business occupations and for general personal satisfaction.

Agreement was reached with the County Superintendent of Schools that the vocational agriculture and vocational home economics programs would continue as they are now taught in the present secondary school plan.

CHEN, JOHN H. M. A Survey of the Libraries of Selected Land-Grant Colleges and Universities. Thesis, D. Ed., 1968, The Pennsylvania State University. 228 p. Library, The Pennsylvania State University, University Park.

Purpose-- To conduct a systematic survey to determine the characteristics of library services at nine selected land-grant colleges and universities. The study also investigated specific features of the libraries in terms of their effectiveness in meeting the needs of the users of modern library services.

Method-- The investigation tested seven hypotheses related to the objectives of the study. Two types of survey instruments, questionnaires and interview schedules, were used to secure both analytical and descriptive data. The questionnaires were sent to the libraries of the selected institutions in November, 1967. The investigator visited all nine institutions in the spring of 1968 to interview professional librarians and readers, and to observe the library services. Data were obtained on the scope of library resources, historical records of the library, the nature of readers' services, the functions of technical services, the types of library facilities, the development of library automation and other factors related to library services.

Findings-- While all nine land-grant institutions were authorized by the first Morrill Act of 1862, individual institutions were created and developed their own patterns based on state situations. The growth of the libraries was only gradual until the second quarter of the twentieth century, but has accelerated in the third quarter through increased funds and the use of improved methods of library management and operation.

In comparing the libraries of the nine land-grant institutions in regard to library services recommended by the American Library Association's Standards for College Libraries, analysis of the data revealed major differences. Rapid growth of enrollment without a corresponding increase in library financial support was the pattern of the libraries which did not meet the standards. The expansion of library facilities had not matched the rate of growth of student enrollment. Current trends indicate that growth of enrollment will continue, and it is forecasted that the problems of library facilities will be more serious in the future.

The major cause for many of the weaknesses found in this survey was inadequate financial support. The data on accessibility of library resources, library hours, reference service, interlibrary transactions and library instruction at the libraries revealed that there were major differences in readers' services offered, also that varying degrees in performance of technical services existed. An analysis of the data indicated that the libraries which had stronger financial support had better technical services.

Although library automation is developing in the nine land-grant institutions, it is still in its initial stage in most of them. Other modern library practices need to be introduced and implemented. Increased national interest in library services, library resources, library administration, readers' services, technical services, library facilities and library automation may be promoted through further studies.

CHONG, WING YOU. Characteristics and Attitudes of 4-H Leaders as Compared to Non-Leader Fathers of Children in 4-H. Thesis, M.S., 1967, University of Maryland. 104 p. Library, University of Maryland, College Park.

Purposes-- 1. To identify factors associated with willingness of fathers of 4-H members to serve as leaders.

2. To compare the characteristics of fathers of 4-H members who were not leaders but expressed an interest in leading with those who expressed no interest in leading.

Method-- Data were obtained by use of a questionnaire mailed to leaders and fathers of 4-H members in six counties in Maryland. The questionnaire secured information about male adult leaders and fathers of 4-H members.

The chi-square test of association was used in addition to frequency and percentile distribution to determine the differences between the leaders and non-leaders.

Findings-- It was found out that leaders compared to non-leaders were generally younger. Factors that influenced a man to serve as a leader were his age and the ages of his children.

The analysis of different recruitment methods showed that a man's being asked was important in his becoming a leader. The analysis of different motivation factors showed that a desire to work with and understand children was very important to both leaders and non-leaders. Quite important also were developing some skills, gaining new experiences, getting leadership training and instruction, and meeting new friends.

CROSS, NEIL V. A Comparison of High School Student and Greenhouse Worker Knowledge of Greenhouse Operation and Management. Paper, M.Ed., 1968, The Pennyslvania State University. 50 p. Library, The Pennsylvania State University, University Park.

Purpose-- To determine the kinds of information that should be included in a high school text on greenhouse production through a comparison of the knowledge of high school students who have had a course in greenhouse production with the knowledge of competent greenhouse workers.

Method-- A 48 question survey form was devised. The form contained 24 factually-oriented questions and 24 conceptually-oriented questions. For scoring purposes the questions were divided into seven categories related to greenhouse operation and management. These categories were: (1) Plant Propagation, (2) General Plant Culture, (3) Specific Plant Culture, (4) Production Control, (5) Marketing, (6) Control of Insects, Diseases and Weeds, and (7) Soils and Fertilizers. The survey was administered to 81 students representing seven high schools, all of the students having had a course in greenhouse operation. This same survey was administered to 30 workers representing eight greenhouse businesses.

Findings-- Analysis of variance indicated that the greenhouse workers make significantly higher scores on the over-all survey than did the high school students. This showed that there is room for improvement in high school greenhouse instruction. It also indicates that a greenhouse work experience program for high school students would be of value.

Correlated t-tests showed that both the high school students and greenhouse workers scored significantly higher on the conceptual questions than on the factual questions. This is taken as an implication that text book and reference materials related to greenhouse production for use in high school classes should be written with a conceptual approach.

The scores of each of the groups on the seven categories related to greenhouse production were analyzed by the Duncan multiple range test. This analysis indicated that both high school students and greenhouse workers made higher scores on questions related to general plant culture. The high school students made lower scores on questions related to plant propagation, while the greenhouse worker scores were lower on questions related to specific plant culture. Scores for both groups of participants were significantly different at the .01 level.

CUSHMAN, HAROLD R.; HILL, C. W.; and MILLER, J.K. The Concerns and Expectations of Prospective Participants in Directed Work-Experience Programs. Staff Project with U.S. Office of Education. 50 p. Library, Cornell University, Ithaca.

Purpose-- Answers were sought to two closely related questions: (1) What concerns are students, parents, and employers likely to evidence when their participation in directed work-experience programs is initially solicited by a teacher of agriculture and (2) What expectations are such prospective participants likely to evidence in the same context.

Method-- Personal interviews were conducted with 100 high school juniors enrolled in ornamental horticulture and agricultural mechanization courses which did not include directed work-experience as a feature of the program. Similar interviews were conducted with the parents and prospective employers of the same students.

Findings-- Teachers can anticipate that (1) a majority of the students will be concerned about the educational worthwhileness of the program. Furthermore, they will expect specific training for an occupation; credit toward graduation; a fair, pleasant, and helpful employer; at least minimum wages; access to further training and/or college; and a varied and interesting work-experience. (2) A majority of the parents will anticipate credit toward graduation, insurance coverage by the employer, the 'right sort of employer', at least minimum wage, and specific training for an occupation. (3) A majority of the prospective employers will share concerns regarding the worthwhileness of the length of work periods and how much voice they will have in selecting students. More than half will expect the students to do varied types of work and to demonstrate good work habits and personalities. They will expect the school to give specific occupational training and to assign the teacher of agriculture to coordinate the work-experience program.

CUSHMAN, HAROLD R.; HILL, C. W.; and MILLER, J. K. The Development and Improvement of Directed Work-Experience Programs in Expanded Vocational Education Offerings in Agriculture at the Secondary School Level. Staff Project with U. S. Office of Education. 153 p. Library, Cornell University, Ithaca.

Purpose-- (1) To develop tested procedures for the guidance of teacher-coordinators in initiating and operating directed work-experience programs in occupational offerings in agriculture. (2) To assess the contribution of directed work-experience to the attainment of educational objectives. (3) To determine whether differing amounts of directed work-experience contribute differentially to educational and occupational outcomes.

Method-- The three-year developmental project involved four distinct phases. (1) The synthesis of procedures for initiating and operating directed work-experience programs from a consortium of innovative ideas which were published as "Guidelines and Procedures for Directed Work-Experience Programs in Vocational Education in Agriculture." (2) A year-long try-out of the guidelines and procedures in 18 secondary schools in the 12 states of the northeast. (3) A formal evaluation of the three purposes of the project. (4) Revision of the "Guidelines. . ." and publication as "The Teacher-Coordinator's Manual for Directed Work-Experience in Agriculture."

Findings-- The effectiveness of the guidelines and procedures as a structural model for programs of remunerative, supervised work-experience in out-of-school, commercial settings was emphatically endorsed by participating teachers, students, and employers. Comparison of students engaged in directed work-experience with students enrolled in similar programs that did not feature work-experience yielded significant differences on three criteria. Participants in directed work-experience evidenced superior achievement in technical knowledge, a higher rate of entry into curriculum-related employment after graduation, and a higher rate of entry into curriculum-related programs of advanced training. Finally, when participants in directed work-experience were left free to regulate the duration of work-experience, no differences were observed in the criterion performance of "high" and "low" experience groups.

DAVIS, BOBBIE D. A Comparative Study of 4-H Junior Leaders, Former 4-H Members, and Non-4-H Members in Marietta, Ohio, 1963. Thesis, M.S., 1967, University of Maryland. 91 p. Library, University of Maryland, College Park.

Purpose-- To determine whether or not there were important differences among 4-H junior leaders, former 4-H members, and non-4-H members regarding personal characteristics, mental ability, vocabulary, and personality factors.

Method-- Data were obtained from 60 junior leaders, 59 former members, and 57 non-members. Personal characteristics, obtained from school records, were represented numerically and by per cent distributions. Raw scores from standardized tests were analyzed for significant mean differences.

Findings-- 1. The length of residency at the same address, and residency with both parents were apparently related to 4-H membership.

2. Junior leaders and former members came from slightly larger families than non-members.

3. Most respondents of each group preferred to enter professional, technical and kindred work.

4. No significant mean differences were found for comparisons on mental ability test scores nor on vocabulary test scores. Significant mean differences were found on twelve of the sixteen personality factors tested. Significant differences existed in factors for sociability, emotional stability, dominance, adventurousness, sensitivity, introversion, shrewdness, apprehension, radicalism, self-sufficiency, self-sentiment, and ergic tension.

DOWNER, HOWARD I. Attitudes of Selected Groups Concerning the Role of Vocational-Technical Education Programs for Occupations in Agricultural Resources. Thesis, D. Ed., 1968, The Pennsylvania State University. 92 p. Library, The Pennsylvania State University, University Park.

Purpose-- To determine attitudes of five selected groups of persons closely associated with agricultural resources and/or education toward items of program establishment and instructional units concerned with occupational education for agricultural resources. Items rated important were to be included in a guide for use in planning vocational-technical programs for occupations in conservation, protection and regulation, and recreational utilization of agricultural resources.

Method-- An interview schedule containing 56 items of program establishment and 64 items of instructional units was administered to five groups of 20 persons each. The groups were randomly selected from lists of persons employed in agricultural resources and/or education. The five groups, identified by their occupational areas were: (1) professional, (2) business, (3) teacher, (4) principal, and (5) extension. A five point Likert-type scale ranging from 1, unimportant, to 5, very important, was used to rate each item as to its importance in occupational education in agricultural resources. The data were obtained by personal interview. Statistical treatment of the data was accomplished through analysis of variance and factor analysis procedures.

Findings-- Ten items of program establishment and twelve instructional unit items yielded F values significant at the .05 level and represented lack of consensus among the groups. Thirty-three items received grand mean ratings corresponding to the scale categories "important" to "very important". Eighty-four of the 120 items on the schedule received a grand mean rating corresponding to the scale categories of "some importance" to "important." Three items received grand mean ratings corresponding to the scale category of "little importance."

Factor analysis failed to cluster meaningful groups of items from the 56 items of program establishment, but did cluster meaningful groups from the 64 instructional unit items. The findings were used to construct a guide that can be used by school authorities, teachers, and others interested in developing vocational-technical programs of occupational instruction in the area of agricultural resources.

Program establishment includes: objectives of programs, instructional areas, clientele to be served, institutions that should offer programs, course sequence, work experience arrangement, and occupational orientation. Instructional units are in these categories: occupational information, applied plant science, applied animal science, applied water management practices, applied soil management practices, applied air pollution protection practices, applied business management procedures and applied mechanics.

DRAKE, WILLIAM E. and TOM, FREDERICK K. T. Entry Occupations in Off-Farm Agriculture--A Survey and Task Analysis of Entry Level Off-Farm Agricultural Occupations in New York State. Staff Study, 1968. 101 p. Agricultural Education Division, Cornell University, Ithaca.

Purpose-- The major purposes of the study were to determine: (1) The present and projected employment opportunities in certain off-farm agricultural entry occupations. (2) The job specifications (duties and responsibilities) of workers in those off-farm agricultural occupations for which there are adequate employment opportunities. (3) The degree to which certain job specifications are common among the off-farm agricultural occupations studied.

Method-- In Phase I of the study, off-farm agricultural establishments representing seventeen Standard Industrial Classifications were surveyed to determine the present and projected number of entry level employees. The study population of employees was obtained from Standard Industrial Classification of employers maintained by the New York State Department of Labor.

In Phase II of the study, the twenty-eight entry level job titles reported most frequently by employees were task analyzed. The task analysis identified those tasks which are performed in more than one entry level job title. The tasks which are most difficult to learn and consume greater amounts of worker time were also identified.

Findings-- (1) For the seventeen Industrial Classifications studied there were 38,521 projected off-farm agricultural entry level jobs in private industry in 1966. There is an anticipated overall growth of 5.2 percent or an increase from 38,521 to 40,541 employees by 1971. (2) Projected increases in new jobs positions are greatest in the general area of horticultural services. (3) The majority (84 percent) of the off-farm agricultural employees have been in business six or more years. (4) Job position turn-over rates ranged from 14 to 46 percent. (5) Ninety-two different entry level, off-farm agricultural job titles were identified by employers in the Standard Industrial Classification industries studied. (6) Seventy-two of the job tasks identified were performed in two or more different job titles.

DUFFY, EDWARD. Learnings Experienced While Planning And Conducting A Series of Discussion Group Meetings With Seniors at the Vocational-Technical School of Rhode Island. Supervised Field Practicum, M.S., 1968, University of Rhode Island. 33 p. Department of Education, University of Rhode Island, Kingston.

Purpose-- The purpose in planning and conducting a series of non-structured discussion group meetings was for the writer to gain in leadership development by (1) functioning as a leader in a group of male vocational high school students (2) attemptimg to relate more effectively to the youthful students in an informal situation and (3) securing varied experiences in working with a group.

Method-- The procedure for the project involved principally conducting informal, unstructured meetings usually on a weekly basis. In these meetings the topics were suggested and introduced by the students without prior arrangement. No rules were imposed upon the group, except that the general decorum of the school was observed, with certain liberties permitted within the group setting. Twelve meetings were originally planned, with the option of extending them if the group desired.

A significant event which took place during this practicum was a crisis in the life of the group which occurred after the eighth meeting. This report focuses mainly upon this crisis, which resulted in the temporary destruction of the group by a small minority and the immediate reconstruction by the remaining members. After the reorganization of the group, considerable progress was made by the group, becoming more cohesive, goal-oriented and having a higher degree of participation by all members.

Findings-- The writer experienced several problems during the course of the project. A most pressing one involved a conflict in roles in trying to be one of the group, yet having to maintain a position as a faculty member (authority figure). Because of this role conflict, the crisis was more or less completely unmanageable, except that the students themselves solved the problem.

Evaluation of the project by the writer was based upon (1) post-meeting reaction sheets made out by the students (2) a goals questionnaire (3) tape recordings of the meetings and (4) feedback questionnaires from the students and certain faculty members whose classes were affected by the project. In addition, the writer's personal subjective judgments entered into the evaluation since this project was a learning experience for himself.

Results of this practicum experience, indicate that:
(1) Vocational High School students welcome and can benefit from such a discussion group program. (2) Adequate orientation of all concerned regarding such a project is essential. (3) For a first experience, the writer would incorporate a more selective method of recruitment regarding various types of personality groupings. (4) Conducting this kind of a practicum project can be an invaluable experience for teachers, counselors and others planning to develop their leadership ability.

ELLIS, WILLIE THOMAS. The Adoption of Educational Innovations Among Experienced Teachers of Vocational Agriculture in Predominantly Negro Schools in North Carolina. Thesis, Ph. D., 1968, Cornell University. 186 p. Library, New York State College of Agriculture, Cornell University, Ithaca.

Purpose-- This study was undertaken to determine how teacher educators and state supervisors in vocational agriculture can become more effective in the implementation of planned behavioral change among teachers of agriculture.

The investigation pursued answers to the following research questions: (1) What are the personal and social characteristics of teachers of agriculture who are classified according to adopter categories? (2) What are the characteristics of opinion leaders among experienced teachers of agriculture? (3) What sources of information do teachers of agriculture most frequently use at the awareness and evaluation stages of the adoption process?

Method-- Data were gathered by group interview from a sample of 115 experienced teachers of agriculture who had taught at least three years in predominantly Negro schools in North Carolina, 1967.

Spearman's rank correlation analysis with computer assistance was used to determine adoption scores. Raw adoption scores were standardized and operationalized as measures of innovativeness. Measures of innovativeness served as the relevant dependent variable.

Multiple correlation and step-wise multiple regression analyses were used to determine the relationships of a battery of twelve independent variables to adoption scores. The .05 level of significance was the minimum established limit for accepting hypotheses.

Findings-- Teachers did vary according to adopter categories on twelve independent variables. However, these relationships were not consistently significant, but patterned trends were apparent.

Teachers with highest adoption scores, who were conceptualized as opinion leaders, exhibited the following relationships to the independent variables: (1) had the most years of teaching experience; (2) had the largest professional libraries; (3) read the most professional journals; (4) visited the most vo-ag departments; (5) had the most occupational experience in other fields; (6) taught in systems with the highest per capita expenditure for education; (7) spent the most personal money for professional development; (8) expressed moderate interest in professional meetings; (9) attended the most non-college credit inservice training workshops; (10) made the smallest personal cash investments for teaching materials; (11) used the most impersonal-cosmopolite sources of information when they became aware of educational innovations; and (12) used the least number of personal-localite sources of information when evaluating whether to adopt educational innovations.

Impersonal-cosmopolite sources of information which were most often used at the awareness stage of adoption by teachers of agriculture were: (1) vo-ag state supervisors; (2) agricultural education professors; and (3) the annual vo-ag teachers' conference.

Personal-localite sources of information which were most often used by teachers of agriculture at the evaluation stage of adoption were: (1) local high school principals; (2) local academic teachers; and (3) local superintendents.

The major conclusion which was drawn from the study was that teacher educators and supervisors in vocational agriculture can be more effective in the implementation of behavioral change among teachers of agriculture by identifying and articulating opinion leaders and the sources of information which teachers of agriculture use in the adoption of educational innovations.

EMIN, JOHN F., JR. Personal Growth Experienced in The Development of a Program in Ornamental Horticulture for Adults. Supervised Field Practicum, M.S., 1968, University of Rhode Island. 70 p. Department of Education, University of Rhode Island, Kingston.

Purpose-- The supervised field practicum was undertaken to provide the author with: (1) personal experience in working with adults (2) experience in preparing and conducting a survey (3) increased competency in presenting a course in Ornamental Horticulture and (4) experience in selecting methods of evaluating the course and analyzing the results for improvement of further course offerings.

Method-- To determine the needs of those adults interested in a course in Ornamental Horticulture, a survey was mailed to one hundred selected individuals in the Towns of Foster and Glocester. The Resource Unit was developed by the author using the topic areas suggested by the respondents to the survey. The following ten Problem Areas comprise the Resource Unit: (1) Use of Plant Growing materials, fertilizers and lime (2) Plant growth and reproduction (3) Pesticides and their proper use (4) Care and maintenance of house plants (5) Landscaping the home - resource specialist (6) Landscaping the home - cont'd. (7) Care and maintenance of landscape plantings (8) Establishing and maintaining new lawns (9) Turf Management - Resource Specialist (10) Turf Management - Cont'd.

The sequence of the subject matter presentation was arranged to offer basic instructional material first and build succeeding instructional offerings upon that foundation. The author used various teaching techniques including the use of films, slides, demonstration materials and a resource specialist in order to make the presentations more effective. United States Department of Agriculture and the University of Rhode Island Extension Service Bulletins and Circulars were used as the main reference publications. The course was presented to thirteen male and female adults during 10 two hour classes in the Ponaganset High School Agricultural Sciences Department.

Two methods of constant evaluation included a written quiz administered to the students at the beginning of the class sessions and verbal feed-back from the students. The third method was the use of an Evaluation Form completed by the students during the ninth class session.

Findings-- The purpose of the supervised field practicum was achieved and is substantiated in the report. The writer suggests the following recommendations as a result of this practicum: (1) Be very explicit with instructions on a mailed survey (2) Allow ample time for follow-up when conducting the survey (3) Offer this type of course in early fall or late spring (4) Explain to the public by the various news media what is to be offered in the course (5) Extend the time limit of 10 two hour classes (6) Visit students' homes for further individual instruction.

FOX, JAMES RAYMOND. Factors Affecting Strawberry Production in Summers County. Problem, M.S., 1967, West Virginia University. 42 p. Library, West Virginia University, Morgantown.

Purpose-- The purpose of this study was to analyze the strawberry industry of Summers County (West Virginia) by conducting a survey of the strawberry growers and obtaining information concerning production practices, growing facilities, marketing and intentions as to continued and/or increased production.

Method-- Data for this study were collected through questionnaires submitted to thirty-four growers in the Summers County. Twenty-six questionnaires were returned and the results analyzed. Additional marketing information was obtained from interviews with personnel of the Beckley Farmers' Market.

Findings-- Based on the data provided by the twenty-six growers, the following conclusions were drawn:

1. Production practices need to be improved in order to obtain maximum income from the growing of strawberries.
2. Promotional work is needed to encourage cooperation among growers to solve transportation problems.
3. The size of plantings needs to be increased to put production on a commercial basis.
4. Irrigation will have to be used to lessen the frost hazard.
5. Continued cooperation with the Cooperative Extension Agents and the Beckley Farmers' Market will help to solve production and marketing problems.
6. Organization of an Adult Farmer Vocational Agriculture Program in and through Sandstone High School for the community will be of assistance in promoting the strawberry enterprise.

FRETTS, DONALD C. Facility and Equipment Requirements for Horticultural Education Programs in Vocational and Technical Schools. Thesis, M.S., 1968, The Pennsylvania State University. 115 p. Library, The Pennsylvania State University, University Park.

Purpose-- To survey ornamental horticultural businessmen and teachers of horticulture (1) to evaluate a series of educational and administrative objectives as applicable to vocational and general programs of ornamental horticulture education, and (2) to evaluate a list of facilities and equipment needed by schools to teach seven instructional areas of ornamental horticulture.

Method-- An interview schedule was developed from inventory lists of seven ornamental horticulture departments in the northeast and consultation with university horticultural staff members. The groups surveyed were 32 horticultural businessmen and 15 secondary school teachers of ornamental horticulture. A personal interview was conducted with each individual and an evaluation of objectives and of facilities and equipment was made based on importance and need for a vocational and a general program of ornamental horticulture instruction. Four hypotheses that pertained to differences in recommendations by the two sample groups were tested at the .05 level.

Findings-- Analysis of variance revealed there were significant differences in the mean importance ratings between sample groups on objectives for both vocational and general programs of ornamental horticulture education. Objectives relating to vocational and general programs of instruction were shown to be important to both types of instructional programs.

The number of items for which there were significant differences in the mean importance ratings of facilities and equipment was small for both vocational and general programs of instruction. The ratings of need by the two sample groups were positive and homogenous for most of the items evaluated. Many facilities and equipment items were found to be needed for several instructional areas. The large number of items with high mean scores supported the vocational and general education objectives in the study and emphasized the importance of occupational experience.

The study indicated that both vocational and general programs of ornamental horticulture education are needed at appropriate locations in the state and that schools offering either type of instruction need to be fully equipped with modern facilities and equipment to provide the type of education needed by persons entering the ornamental horticulture industry.

GAGNI, ARSENIO O. The Differential Prediction of Selected Measurements in Ornamental Horticulture. Thesis, Ph. D., 1968. Cornell University. 130 p. Division of Agricultural Education, Cornell University, Ithaca.

Purpose-- This study was an attempt to establish criteria and procedures for the selection of students for specialized Ornamental Horticulture training programs at the secondary school level. Specifically, answers were sought in connection with the following questions: (1) How does performance on the School and College Ability Tests, Abstract Reasoning and the General Aptitude Test Battery relate to the selected success criteria in Ornamental Horticulture? (2) What combinations of subtests from the test battery would yield the optimum estimates of the selected success criteria in this specialized agriculture program? (3) How well do the selected predictor variables discriminate among subjects with respect to categorical criteria of occupational success?

Method-- The relevant criteria in Ornamental Horticulture programs which were used as dependent variables are as follows: (1) Achievement in Ornamental Horticulture, (2) Attitude towards work, and (3) Performance on the job. The independent variables comprised the twelve raw scores of the GATB, Verbal and Quantitative scores of the SCAT, and the score from the Abstract Reasoning of the DAT.

Via stepwise regression analysis each criterion was regressed on the predictor variables. The basis for incorporating any predictor into the predictor subset was the contribution of a significant increase in the squared coefficient of multiple correlation.

The multiple discriminant analysis was utilized to establish the differentiability of groups as a function of performance on a set of independent variables. The five categories constituting criterion classifications were: (1) Employment in an Ornamental Horticulture occupation, (2) Entry into military service, (3) Matriculation in an advanced Ornamental Horticulture program, (4) Matriculation in a non-agricultural program of higher education and (5) Entry in an occupation unrelated to high school preparation.

Findings-- Significant relationship was found between achievement in Ornamental Horticulture and scores from the SCAT, Abstract Reasoning, Computation, Vocabulary and Assembly Apparatus scores. Only the Disassembly Apparatus score showed significant relationship with Job-Satisfaction. No significant relationship was obtained between the predictors and on-the-job performance.

Verbal, Quantitative, Mark Making and Assembly Apparatus had contributed significant increase to the coefficient of multiple correlation. The selected predictor variables yielded a multiple correlation of .551. The amount of variance accounted for was 30.4 percent.

The criterion of attitude towards work was predictable from the combination of the scores in Disassembly, Tool Matching, Form Matching, and Three-Dimensional Space. The coefficient of multiple correlation was .759. The amount of variance accounted for was 57.5 percent. It was found that on-the-job performance was not predictable from the predictor variables used.

The results of discriminant analysis for classification purposes yielded a significant Wilks' lambda statistic. This indicated a significant group difference on the predictive measures. Four discriminant functions appeared to be necessary for describing the differences among the five groups found in these seven predictors.

The proportion of "hits" in each group were: Group I, 37 percent; Group II, 47 percent; Group III, 50 percent; Group IV, 40 percent, and Group V, 86 percent. There were 33 students out of 70 representing 47 percent correct classification in this sample.

Sufficient evidence was found to indicate that prediction among employment categories via multiple discriminant analysis using the selected aptitude measures is significantly better than random assignment or chance classification of subjects into group membership.

HANBY, DONALD L. The Evaluation of Four Agricultural Textbooks and Some Factors Associated with Textbook Selection and Use. Paper, M. Ed., 1968, The Pennsylvania State University. 80 p. Library, The Pennsylvania State University, University Park.

Purpose-- To evaluate four agricultural textbooks, determine attitudes about money spent for textbooks, survey textbook use and textbook content, find out what agricultural textbooks teachers of agriculture have in their departments, and survey attitudes and practices concerning textbooks of industrial arts and trade and industry teachers.

Method-- The textbooks, *Dairy Production* and *Crop Production*, published by Prentice-Hall, Inc., and the textbooks, *Approved Practices in Dairying* and *Approved Practices in Crop Production*, published by the Interstate Printers and Publishers, Inc., were evaluated in group meetings by 30 teachers of agriculture in central and western Pennyslvania. A textbook score card was used. Teacher attitudes were determined by sending questionnaires to a random sample of twenty-five teachers of agriculture, twenty-five industrial arts teachers, and twenty-five trade and industry teachers in Pennsylvania.

Findings-- The textbooks, *Dairy Production* and *Crop Production* scored higher and were preferred by more teachers than the textbooks, *Approved Practices in Dairying* and *Approved Practices in Crop Production*.

A large majority of the teachers of agriculture who participated in the textbook evaluation had not previously made a systematic evaluation of textbooks. They liked the score card as an aid in selecting textbooks, and indicated that they would like an in-service course on textbook and materials selection.

A majority of the teachers of agriculture, industrial arts teachers, and trade and industry teachers replace textbooks every five to six years, spending three to five dollars per student per year on textbooks. They feel that student vocabulary as well as reading and spelling ability improve through the regular use of textbooks and indicated that textbooks make the organization of subject matter easier. The teachers of agriculture have a larger number of different textbooks in their departments.

HARPSTER, JAMES E. The Development of Agricultural Education Programs for Agricultural and Horticultural Businesses in Juniata and Mifflin Counties. Paper, M.Ed., 1968, The Pennsylvania State University, University Park.

Purpose-- To determine the type of program and skills, abilities and understandings needed to establish agricultural business and horticulture courses in the Juniata-Mifflin Counties Area Vocational-Technical School.

Method-- Data were collected by personal interviews with 16 selected managers of agricultural businesses and ornamental horticulture establishments. Twenty-five items on program establishment were divided into the following categories: objectives of the program, occupational experience program, clientele to be served, and course sequence for students. Ninety-five skills, abilities, and understandings were divided among the five instructional areas of: applied agricultural business principles, plant science, soil science, agricultural mechanics and animal science. The items in the interview schedule were rated as very important, important, some importance, little importance, and unimportant. The types of businesses in the survey were grouped according to major emphasis of the business. The four types of businesses were: agricultural supplies, agricultural machinery, agricultural products, and ornamental horticulture. The mean scores for each of the four types of businesses and the grand mean were calculated. Comparisons as to need for the skills, abilities, and understandings, by business types were made.

Findings-- Of the 25 items on program establishment, 8 were rated important, 14 were rated as having some importance and 3 were rated as having little importance. Of the 95 skills, abilities, and understandings, the 30 items listed in the agricultural business category were rated as important by the managers of the 4 types of businesses. The 15 items in plant science received a mean rating of some importance by all business managers except for those items in agricultural products. The agricultural mechanics category, with 20 items, was rated by the managers according to: important, agricultural machinery; some importance, agricultural supplies and agricultural products; little importance, ornamental horticulture. The animal science category was rated as important by the managers of agricultural supply businesses and of little importance by all others. The plant science category was rated of some importance by the managers of agricultural supplies and ornamental horticultural businesses and was rated as of little importance by others.

The findings indicate that different areas of specialization should be provided for students in agricultural business and horticulture courses of study in eleventh and twelfth grades.

HERR, CARL E. An Evaluation of the Objectives and Activities of the Annual Pennsylvania FFA Activities Week. Paper, M.Ed., 1968, The Pennsylvania State University. 44 p. Library, The Pennsylvania State University, University Park.

Purpose-- To define the objectives of FFA Activities Week, (2) to evaluate the scheduled activities conducted during the week and to determine whether the activities are meeting the defined objectives, (3) to evaluate the opinions of teachers and supervisors concerning the selection and numbers of students attending FFA Activities Week, the selection and distribution of prizes and trips and the general operational procedures of FFA Activities Week, (4) to identify new activities which could be added or substituted in the scheduled activities.

Method-- A six-section questionnaire was developed to secure the information. Two hundred forty teachers of agriculture and 19 area supervisors were given the questionnaires when they arrived on the campus of The Pennsylvania State University for FFA Activities Week. The questionnaires were collected before the participants left at the conclusion of the three-day FFA Activities Week. The data were tabulated by frequency counts and mean ratings were calculated wherever applicable.

Findings-- More than 90 percent of the teachers and supervisors indicated that the following should be the objectives of FFA Activities Week:

1. Developing and demonstrating leadership abilities
2. Demonstrating occupational skills and abilities
3. Disseminating career information and occupational counseling
4. Developing Social etiquette
5. Providing recreational and entertainment activities

The presently conducted contests and activities received ratings of good or better by nearly all of the respondents.

The teachers and supervisors felt that contests are a necessary part of FFA Activities Week, that leadership development activities and contests should not be held at separate times during the year, that evaluation must be scheduled and completed regularly, and that regional and national teams should not be composed of students from one high school. Students in grades 9 through 12 should be allowed to participate on the basis of ten percent of paid FFA membership by areas. Participants should carry an identification card and be required to attend all general sessions of the State FFA Convention. Participants should be required to remain after competition to receive official placings and listen to the reasons.

Contests should be started in small engine trouble shooting and in farm tractor or engine trouble shooting. Twelve other new activities should be studied for possible inclusion in the FFA Activities Week program.

HOERNER, THOMAS A. Level of Mechanics Skills, Abilities, and Understandings Needed and Possessed by Teachers of Agriculture. Staff Study, Teacher Education Research Series, Volume 9, Number 3, 1968. 40 p. Department of Agricultural Education, The Pennsylvania State University, University Park.

Purpose-- To determine the competence needed and possessed in seven areas of agricultural mechanics by teachers of agriculture, to discover relationships with selected teacher and program characteristics, and to find out where the teachers obtained their training in each of the selected skills, abilities, and understandings.

Method-- A survey form including a 148 item rating scale was developed. The information on levels of competence and on the teacher and program characteristics was obtained by group interview from 133 teachers in Pennsylvania while they were enrolled for in-service courses in agricultural mechanics in 1967. Statistical tests included correlation, correlated *t*-test, analysis of variance and the Duncan Multiple Range Test.

Findings-- On a five-point rating scale, 4 to 0, the mean scores for competency needed in seven skill groups were: welding and metals 2.92, concrete 2.88, general mechanics 2.79, electricity and motors 2.76, carpentry construction 2.67, power and machinery 2.65, irrigation and soils 2.41. Listed in the same order, the skill group mean scores for competence possessed were lower. The differences were .42, .44, .40, .80, .31, .60, and .96. On 126 of the 148 individual skills the teacher mean score for competence needed was significantly higher than the mean for competence possessed (.01 level).

Skills given the highest need rating included: safely operate a tractor 3.4, use and maintain hand woodworking tools 3.3, operate and maintain a portable radial arm and a tilting arbor saw 3.2, maintain and repair tractors 3.1, operate and maintain a drill press and power hand drill 3.1, select and operate oxyacetylene and arc welding equipment 3.1, safely wire and fuse electrical motors 3.1, operate and maintain a power grinder, hacksaw, and portable grinder 3.1, use and maintain hand metal working tools 3.0.

Teachers with fifteen or more undergraduate college credits in agricultural mechanics had greater competence in welding, power and machinery, and irrigation and soils. Teachers with more years experience had higher competency in general mechanics and welding. Teachers' competence in the largest number of skills was obtained in college or was self taught.

HOOPER, WAYNE EDGAR. Benefits Derived From An Adult Farmer Organization Within The Class Structure in Vocational Agriculture. Problem, M.S., 1968, West Virginia University. 72 p. Library, West Virginia University, Morgantown.

Purpose-- The purpose of this study was to determine the benefits derived from an adult organization within the class structure of vocational agriculture and to develop the criteria for establishing an adult farmer organization in vocational agriculture.

Method-- Data for this study were collected through questionnaires submitted to twenty-five head teacher educators, twenty-five state supervisors of vocational agriculture, forty-five teachers of vocational agriculture, and an opinionnaire sent to thirty-one leading farmers in Pleasants County, West Virginia.

Findings-- The following are some of the results, conclusions and recommendations which were drawn from this study:

1. There is an interest in initiating an adult farmer organization within the adult farmer class.
2. Many of the responding adult educators are not completely satisfied with the present structure of adult education in vocational agriculture in the state in which they are presently employed.
3. The majority of the states are not familiar with an adult farmer organization in vocational agriculture.
4. A proposed criterion for initiating an adult farmer organization was developed through this study.
5. An extensive list of the benefits derived from an adult farmer organization was developed from this study.
6. The study reveals that the criteria for organizing an adult farmer organization include a constitution and by-laws to govern and protect the organization and its members, and a program of work to carry out its purposes through appropriate activities.
7. The main purpose of the organization must be education.
8. The organization must not become involved in religious or political endeavors.
9. The organization must not be in competition or conflict with other existing agricultural or educational organizations.
10. The organization must maintain high ideals and standards and satisfy a specific need not being met in the many organizations for adults in our society.
11. The organization must be designed to meet the needs and desires of the local community.

This study shows that there is a definite need for an adult farmer organization; therefore, there should be pilot or developmental programs initiated by the state staff of agricultural education to demonstrate the benefits which may be derived from an adult farmer organization.

HOWELL, DAVID L. Opinions Held by Selected Groups of Volunteers Concerning the Competency Level Used by Peace Corps Volunteers in Colombia. Paper, M.Ed., 1968, The Pennsylvania State University. 108 p. Library, The Pennsylvania State University, University Park.

Purpose-- To determine competency levels in selected skills as perceived by four groups of Peace Corps agricultural volunteers before entering the Peace Corps, after Peace Corps training, after working in the host country, and the rating of importance of the skills. A secondary objective was to indicate the technical agriculture training needed by farm and non-farm volunteers as reflected by their competency ratings.

Method-- A questionnaire was developed with the aid of resource materials from the four training programs and the assistance of Peace Corps personnel. The 90 volunteers who were participants in the four agricultural extension programs in Colombia were asked to provide the data. Forty-five questionnaires were completed; 11 by the first group (Colombia 12), 17 by the second group (Colombia 25), 11 by the third group (Colombia 44), and 6 by the fourth group (Colombia 54).

Findings-- No differences were found among the four Peace Corps groups in their self-perceived level of competency before entering the Peace Corps or after Peace Corps training in 11 of the 13 main skill areas, or after working in the host country in 10 of the 13 main skill areas. The ratings of importance by the four Peace Corps groups also did not differ in 11 of the 13 main skill areas.

Findings also indicated that instead of being trained as one group, the volunteers with farm and non-farm backgrounds needed separate training. The training of the farm volunteers should include more technical agriculture information and skills.

The non-farm volunteers did not differ from the farm volunteers in the number of agricultural enterprises developed by the host country nationals as a result of the teaching. When given general agricultural training, they could, therefore, be effective in developing small family enterprises such as gardens and chickens.

KLEMENT, JEROME J. A Study of Life History Characteristics of Older 4-H Club Members. Thesis, M.S., 1966, University of Maryland. 123 p. Library, University of Maryland, College Park.

Purpose-- To determine if there were identifiable characteristics of older 4-H members who have held positions of leadership.

Method-- Data were collected by means of a life history inventory, personal fact sheet, and the Vocabulary Test of the Nelson-Denny Reading Test from 639 4-H members from fifteen states who participated in the 4-H Citizenship Short Course at the National 4-H Club Foundation in May and June, 1966. Data were analyzed in terms of the number of times the 4-H member had held the office of local 4-H club president and the responses on the three instruments. Factor analysis was used to determine related items and the chi-square test was utilized to determine differences in response between groups. The t-test was used to test the difference between the mean score on the vocabulary test.

Findings-- 1. There were no significant differences in the responses on the life history inventory of the 4-H members who had been presidents and those who had not.

2. The 4-H members who had been presidents were seventeen years and older, had completed the eleventh grade in school, and had been members of the 4-H for seven years or longer. The boys who had been presidents also had been junior leaders and had served as junior leaders longer than those who had not been presidents.

3. The 4-H member who had been elected president of the local 4-H club had held more 4-H offices other than president. These included other offices in the local club, offices in a county 4-H program and all appointed offices in the 4-H.

4. The girls who had been presidents belonged to more youth organizations outside of 4-H and held more offices in these organizations. These offices include all elected and appointed offices.

5. There were no significant differences in the mean scores on the Nelson-Denny Reading Test for leaders and non-leaders.

LAREW, LAWRENCE TULLY. Vocational Agriculture Space, Supply and Equipment Needs for a Comprehensive High School in Monroe County. Problem, M.S., 1967, West Virginia University. 53 p. Library, West Virginia University, Morgantown.

Purpose-- It was the purpose of this study to determine the amount of space, supplies and equipment in present multiple teacher vocational agriculture departments; to secure specific suggestions for space, supplies and equipment; to compile general information relating to facility planning; and to make recommendations for space, supplies and equipment in a vocational agriculture department of a projected high school in Monroe County.

Method-- Data for this study were obtained by questionnaires sent to personnel of multiple teacher departments of vocational agriculture in West Virginia; interviews with selected teachers, supervisors and professors; visits to six multiple teacher departments for observation of actual situations; review of literature from books, bulletins and magazines; and personal interviews by the writer while doing student teaching and during current employment in a multiple teacher department.

Findings-- The following findings and conclusions were drawn from this study:

1. Vocational agriculture teachers desire more space.
2. A special need for storage space exists.
3. Multiple teaching areas for shopwork skills are being installed.
4. Specific space, supply and equipment recommendations were made for a projected multiple teacher department of vocational agriculture in Monroe County.
5. Consolidation with adequate and intelligent planning might be one way to eliminate space deficiencies.

LARRABEE, DAVID E. and STINSON, RICHARD F. Development of Horticulture Curriculum Syllabi Based on Philosophy of Education, Levels of Skills Required by Horticulture Occupations, and Levels of Education Needed. Staff Study, Teacher Education Research Series, Volume 9, Number 4, 1968, The Pennsylvania State University. 49 p. Department of Agricultural Education, The Pennsylvania State University, University Park.

Purpose-- To develop curriculum outlines for ornamental horticulture to be used in comprehensive high schools and area vocational-technical schools based on (1) the primary philosophy of the two types of schools--exploratory, avocational, vocational, or professional, (2) the level of skill required in different occupations in ornamental horticulture--unskilled, semi-skilled, skilled, or professional, (3) the level of education needed or recommended for preparation to enter these occupations.

Method-- An opinion survey was sent to a sample consisting of 30 professors of ornamental horticulture in universities, 30 ornamental horticulture instructors in vocational-technical schools, 38 ornamental horticulture instructors in comprehensive high schools, and 30 individuals engaged in the ornamental horticulture industry. The data were analyzed for differences of opinion among the four groups.

Findings-- An 88 per cent return of questionnaires was obtained. Analysis of the data showed that the educational objective of ornamental horticulture should be exploratory in high schools, vocational in vocational-technical schools, and professional in colleges.

Occupations in ornamental horticulture requiring less than a high school education and classifying as unskilled were laborer, deliveryman, and equipment operator. A high school level education is required for clerk and office occupations in ornamental horticulture. Occupations in ornamental horticulture requiring a vocational-technical type education and classifying as skilled were salesman, manager, propagator, and foreman.

Owners and persons in occupations such as plant breeder require a professional level college education.

LEASE, GARETH B. An Analysis of Farm Work Accidents to People on Farms in Frederick County, Maryland, 1960. Thesis, M.S., 1967, University of Maryland. 100 p. Library, University of Maryland, College Park.

Purpose-- To determine the causes and circumstances surrounding farm work accidents on farms in Frederick County, Maryland.

Method-- Each selected farm was contacted and surveyed at two month intervals during 1960. A total of 547 farms were surveyed involving 2,075 people on farms; 41 farm work accidents were reported.

Findings-- 1. Farm machinery was the leading contributing factor to farm work accidents.

2. The tractor was involved in more farm work accidents than any other type of machine.

3. Fractures were the leading type of injury and the body extremities were most involved.

4. Over one-half of the farm work accidents happened in and around the farm buildings.

5. Harvesting operations claimed the most victims.

6. Persons forty-five to forty-nine were most susceptible to farm work accidents.

7. Owners of farms were the largest group of accident victims by occupational status.

8. August was by far the most accident prone month.

9. Nearly one-fourth of the accidents happened on Saturday.

10. The hours of 2:00--4:00 p.m. involved more accidents than any other two hour time span.

McGILL, LYNN R. Guidelines for a Youth Organization in Agriculture and Implications for Change in the Future Farmers of America. Essay, M. Ed., 1968, Cornell University. 48 p. Library, Cornell University, Ithaca.

Purpose-- The purpose of this essay was to establish guidelines for a youth organization in occupational education in agriculture which may be used to examine proposed changes in the Future Farmers of America.

Method-- The procedure used in this essay was to review literature to:

1. Examine the current, and projected changes in agriculture and occupational education in agriculture.
2. Establish the role and organization of the Future Farmers of America.
3. Establish guidelines for an organization to meet the leadership training needs of all students enrolled in occupational education in agriculture.
4. Identify proposed changes in the Future Farmers of America.
5. Examine proposed changes in the Future Farmers of America in light of the guidelines.

Findings-- The major findings of the essay were as follows:

1. Agricultural education is changing to meet the need for training people in non-farm agri-business and industry.
2. The Future Farmers of America is not organized to meet the needs of students outside the Farm Production and Management speciality.
3. The following guidelines for a youth organization in occupational education in agriculture were established:
   (a) Membership of students from all teaching areas in agriculture is encouraged.
   (b) Activities should include both farm and non-farm agricultural areas.
   (c) A degree and award program which reflects its activities is desirable.
   (d) Continuity of student leadership is encouraged.
   (e) A name appropriate to the membership which it includes is recommended.
   (f) Aims and purposes of an organization need to be consistent with the purposes of occupational education in agriculture.
4. The literature indicated that the following changes need to be made in the Future Farmers of America:
   (a) Change the name to "Future Agriculturalists of America".
   (b) Allow girls to become members.
   (c) Maintain one organization for all youth studying agriculture.
   (d) Implement new, more appropriate aims and purposes.
   (e) Add degrees and awards appropriate to all areas of agriculture.
   (f) Retain the immediate Past-President on executive committees at the local, State, and National level for one year with full voting power.

MOORE, DONALD J. An Analysis of the Relationship of Certain Employee Characteristics to Tenure and Performance of Selected Virginia Extension Agents. Thesis, M.S., 1967, University of Maryland. 148 p. Library, University of Maryland, College Park.

Purpose-- To determine the relationship of certain employee characteristics to the tenure and performance of selected extension agents-agriculture in Virginia.

Method-- Seventy-seven agents were divided into short, medium and long tenure groups. The same agents were also ranked low, medium and high on the basis of their performance ratings. The Adaptability Test developed by Tiffin and Lawshe and the Strong Vocational Interest Blank were administered to the respondents. Characteristics considered were adaptability, vocational interest and academic accomplishments. Two criterion variables, one for tenure and another for performance, were used. One hundred twenty-nine independent variables were correlated against the two criterion variables. Analysis of variance was used to determine the significance of difference between the characteristics of the two sets of groups.

Findings-- The important findings of the study were:

1. Employees with longer tenure were not necessarily high performers.
2. There was no significant relationship between adaptability or overall academic grade point average and performance.
3. There was a significant negative relationship between the number of academic credit hours in education and agricultural education and the performance ratings of Virginia extension agents.
4. The vocational interests of extension agents were more nearly like those of farmers, forest service men, Y.M.C.A. physical directors, and school superintendents. Their vocational interests were mature and stable and they were highly professional.
5. The Adaptability Test and the Strong Vocational Interest Blank failed to discriminate between the more effective and less effective Virginia extension agents-agriculture.

OSANI, CHARLES W. Development of an Adult Education Program in Agriculture Mechanics for the Port Allegany School District. Paper, M.Ed., 1968, The Pennsylvania State University. 54 p. Library, The Pennsylvania State University, University Park.

Purpose-- To determine the phases of agriculture mechanics training most needed by adult farmers in the Port Allegany School District. The study was planned to assist the teacher of agriculture who was concerned with investigating the needs for and interest in such a program.

Method-- The procedure used to obtain the information was to interview a random sample of 33 farmers selected from lists provided by the Agricultural Stabilization and Conservation Service. The information desired included: personal data concerning the farmer, community activities of the farmer, major farming enterprise, farming status, farm size, investment in farm business, gross farm income, kind of farm service center, approximate value of major shop tools and equipment, agriculture mechanics skills and abilities of the farmer, farmer's greatest need in agriculture mechanics, interest in adult education in agriculture mechanics, and areas of instruction of greatest interest.

Findings-- In this study of 33 farmers, 17 were part-time farmers and 16 were full-time farmers. Fourteen full-time farmers indicated a desire in such a program as compared to four of the part-time farmers. Phases of instruction in agriculture mechanics in which there was greatest interest were tractor maintenance and adjustment, machinery maintenance and adjustment, arc welding, establishing a farm service center, equipping a farm service center and using shop tools and equipment.

The mean age of farmers interested in the program of adult education in agriculture mechanics was lower than that of farmers who were not interested. Educational attainment was higher for the interested group. Those who were interested in a program of agriculture mechanics had a higher gross farm income, total farm investment, and investment in major shop tools and equipment than the not interested group. The interested group had more cattle, more years in vocational agriculture, higher Community Participation Score, and had larger farm size. The interested group had smaller farm service centers than the not interested group.

MUSSER, FRANK R. The Development and Evaluation of a Unit of Instruction in Forest Management. Paper, M.Ed., 1968, The Pennsylvania State University. 129 p. Library, The Pennsylvania State University, University Park.

Purpose-- (1) To develop a student resource unit on management of forests for multiple use, (2) to develop a teacher's guide on management of forests for multiple use, (3) to have teachers and professional personnel evaluate the teacher's guide and the student resource unit, and (4) to compare selected factors concerning student residence, intelligence quotient, outdoor activities inventory, Vocational Agriculture Interest Inventory, Kuder Preference Record, Occupational Form D (forester), and forest management test scores.

Method-- A teacher's guide and a student resource unit on forest management were developed. These materials were field tested in nine high schools in western Pennsylvania. One hundred twenty-two high school students in agriculture completed a 20 classroom period or fifteen hour course based on the student resource unit. A fifty-question multiple choice test on forest management, the Vocational Agriculture Interest Inventory, the Kuder D (forester) form, and an outdoor activities inventory were completed at the end of the course. Teachers were asked to evaluate the student resource unit and teacher's guide.

Findings-- A total of 122 students from nine high schools completed the student resource unit on forest management. Among the 122 students in the study, 74 lived on farms, 40 lived in a rural non-farm area, and 8 lived in an urban area. The unit of instruction on forest management and the teacher's guide were effective tools in teaching forest management to agriculture students as measured by the teachers' reactions. In studying results of the student test scores it can be stated that more students than expected had high scores on the Kuder D forester scale, outdoor activities inventory, I.Q., and the Vocational Agriculture Interest Inventory.

In comparing place of residence (farm, rural non-farm, and urban) with student performance on the Kuder D forester scale, outdoor activities inventory, I.Q., Vocational Agriculture Interest Inventory, and the forest management test all scores were about the same except that the average Vocational Agriculture Interest Inventory score for farm boys was 16 points higher than for boys from rural non-farm and urban areas.

PECK, RHODA M. Adult Volunteer 4-H Leaders and the 4-H Club Program, Columbia County, New York, 1960 and 1967. Thesis, M.S., 1968, University of Maryland. 143 p. Library, University of Maryland, College Park.

Purpose-- To study selected characteristics of adult volunteer 4-H leaders, 4-H Clubs, and 4-H members in Columbia County, New York, and the extent of change between 1960 and 1967.

Method-- Data were obtained through available records and a mail survey conducted in 1960 and again in 1967. Characteristics found in leaders, clubs and members were the three major aspects of the study.

Percentages were used for the purpose of analysis and interpretation of the data, and chi-square was used to determine statistically significant changes between 1960 and 1967.

Findings-- 1. 4-H leaders. In 1967 compared to 1960 there was an increased number of assistant leaders, leaders were older, and they placed a higher value on becoming leaders so that their children would be in or stay in 4-H. In 1967 more leaders were satisfied with training received as new leaders and the 1967 leaders used more of the teaching methods such as talks by club members, flannel board and tours. Fewer leaders in 1967 than in 1960 desired training in the duties of a leader. With more leaders per club in 1967, more of the leadership jobs were shared among the leaders.

2. 4-H Clubs. The number of clubs decreased from 1960 to 1967. In 1967 fewer business meetings were held each month and more leaders encouraged parents to help members select their projects.

3. 4-H members. Enrollment decreased 20 per cent from 1960 to 1967 and the proportion of the girls to boys increased. In 1967 members in more clubs had individual responsibility only part of the time for some part of the meeting and in fewer clubs members took individual responsibility all the time, while in 1960 members in more of the clubs took individual responsibility all the time.

PERISTERAS, POPPY. Experience Acquired in Conducting Group Discussion for Personal Development for Freshmen Students in A Diploma School of Nursing. Supervised Field Practicum, M.A., 1968, University of Rhode Island. 27 p. Department of Education, University of Rhode Island, Kingston.

Purpose-- To gain experience in conducting a discussion group and to expand the use of the leadership skills of the writer.

Method-- The following procedures were utilized:

1. Organizing and conducting the group discussion sessions.
2. Collecting group data from post-meeting discussions and diaries.
3. Analyzing the trainer's introspection of group behavior.

A group of volunteers was brought together to participate in a series of group discussions for personal development. First year student nurses of a diploma school of nursing were approached individually and in small groups for the purpose of explaining the project to them. A total of sixteen students who volunteered for the project met and set the ground rules. Ninety minute sessions were held once a week for a period of eleven weeks.

In conducting these sessions the trainer had the opportunity to identify four areas in which the group needed help in order to promote growth:

1. The ability to motivate group members in initiating discussion.
2. The need for providing an atmosphere free of threat.
3. The need to resolve the problem of silence within the group.
4. The need to resolve the conflict roles experienced by the trainer which hindered movement of the group.

The trainer was instrumental in employing leadership skills that would help to meet group needs including reflection, clarification, interpretation and summarization.

Findings-- The effectiveness of the trainer in the group was indicated in the feedback from the group as well as by her own analysis. In achieving the purpose of the practicum project the trainer gained new insights into group functions, and more self-confidence in exercising group leadership.

The writer suggests the following recommendations as a result of this practicum:

1. Group members should receive a more precise explanation of the ultimate expectations of a personal development group.
2. A practicum of this type should be tried with a group of senior class students.
3. Any person formally planning to become a practitioner in group work should have the opportunity in his graduate program to conduct a practicum experience project in some area of group behavior.

ROSS, NEIL W. Personal Learning Experiences Attained By Application of Adult Education Methods To A Junior College Class. Supervised Field Practicum, M.A., 1968, University of Rhode Island. 45 p. Department of Education, University of Rhode Island, Kingston.

Purpose-- The supervised field practicum project was undertaken to provide the author experience in observing and utilizing various adult education methods and leadership techniques.

Method-- As a graduate assistant team-teaching the forty student Humanities 095 class at the Rhode Island Junior College, the author:

1. Observed teaching skills of the supervising Professor; used leadership skills, such as leading class discussions; and tried out methods of adult education, including the use of questionnaires, the "huddle" method and the "circus" technique.
2. Served as a process resource person by reporting his findings to the group on the processes taking place; for example, discussing the effects of "cutting-off" a student in class. He also gave feedback to the class on his personal observations and feelings.
3. Requested verbal and written feedback on his classroom effectiveness from the students and Professors; while maintaining his own "Practicum Record" including observations, experiences, feedback, and feelings.

Findings-- Observations and feedback:

1. The author observed the use of methods and skills of the Professor during thirteen class sessions; improved his own class leadership while becoming more democratic; and became more self-confident through the use of the adult education methods.
2. While serving as a process resource person and giving feedback to the class, the author became increasingly open with his feelings and observations when asked by students, Professor, or felt the need.
3. Student feedback, received verbally from groups and individuals, and in writing through the use of an evaluation questionnaire, generally confirmed the author's feelings of progress and problems while offering a few surprises. Feedback from the Professors was quite helpful in gaining insights into effectiveness, use of methods, and personal learnings. The "Practicum Record" helped organize the author's thoughts, feelings, and learnings during the semester. Case studies of two students were also presented.

SCHUKRAFT, RICHARD C. A Study of the Training Needs of 4-H Local Leaders in Three Selected Counties in Maryland. Thesis, M.S., 1967, University of Maryland. 134 p. Library, University of Maryland, College Park.

Purpose-- To determine 4-H local leaders' opinions regarding training desired in organizational management techniques and agricultural or agriculturally related project areas.

Method-- A mail questionnaire was sent to 60 leaders of boys' 4-H Clubs who served in Dorchester, Howard, and Washington Counties, Maryland. The local leaders were asked to indicate: (1) the importance of 22 organizational management techniques, (2) degree of organizational management technique training desired, (3) the degree of 4-H project development training desired, and (4) the effectiveness of 4-H subject matter training meetings.

A jury was selected to validate the 22 organizational management techniques. The 25 agricultural or agriculturally related projects used were those recognized as being adapted to boys' 4-H Club work.

A four point rating scale, a comparative mean score, and the t-ratio were used in analyzing data.

Findings-- 1. Leaders attending the least number of training meetings indicate a greater desire for additional information in the organizational management techniques and agricultural project areas.

2. Leaders with longest tenure generally desired less additional information in the various 4-H agricultural projects than did those with least leadership experience.

3. Members of 4-H Clubs whose leaders attended project training meetings presented demonstrations and talks more frequently than did members of clubs whose leaders did not attend project training meetings.

4. Significant differences existed between some of the 4-H organizational management techniques concerning local leaders expressions for both importance of being knowledgeable and desire for additional information.

SEELY, WAYNE A. The Association of Selected Factors with Student Measured Interest and Achievement. Paper, M.Ed., 1968, The Pennsylvania State University. 47 p. Library, The Pennsylvania State University, University Park.

Purpose-- To test the usefulness of a revised teaching plan and student resource unit in occupational exploration titled Planning for a Career in Agriculture. Further purposes were to assist guidance counselors and teachers of agriculture to measure student interest and aspirations and to determine relationships among these and other student characteristics and a two-part achievement test.

Method-- Three hundred ninety students in ninth and tenth grade agriculture classes in thirty high schools in northeastern Pennsylvania were taught the unit in sixteen to twenty hours of class time. An in-service teacher education conference was held in advance with the teachers of agriculture and a guidance counselor in each school. The instructional materials were furnished. Testing and other data collection activities were carried out by the project leader as each school completed the unit.

Findings-- Students living on farms had higher scores on the Vocational Agriculture Interest Inventory. Those with full-time farm experience had the highest scores. There were higher mean scores for the students planning to enter an agricultural occupation, those planning post-high school education, and those planning to continue in the agriculture curriculum.

Student scores on the total test of guidance and agricultural occupations information were higher for students living on farms and for students with full-time farm experience. Mean scores on the total test were higher for students planning to enter an agricultural occupation, planning post-high school education, and planning to continue in the agriculture curriculum.

Correlation of .12 for agriculture interest and total achievement test scores for the 390 students was significant at the .05 level. Correlation of I.Q. with the total achievement test score was .47, significant at the .01 level.

SELLAND, LARRY G. Factors Associated with Membership and Non-Membership in FFA of Michigan Vocational Agriculture Students, 1968. Thesis, M.S., 1968, University of Maryland. 143 p. Library, University of Maryland, College Park.

Purpose-- To identify factors associated with membership and non-membership in the FFA.

Method-- The study involved a mail survey of 435 vocational agriculture students and 116 FFA advisors in the State of Michigan.

Chi-square test was used to measure statistical significance of differences between members and non-members in the FFA and between FFA advisors of high membership and low membership chapters on a number of variables related to membership and non-membership in the FFA.

Findings-- 1. Majority of the members: (a) were enrolled in vocational agriculture in the 9th and 10th grade, (b) had been members of the FFA in the 9th, 10th, and 11th grades, (c) resided in a farm location, (d) spent more hours at other work per week than on school work, (e) participated in more school and community activities, and (f) had relatives who were members of the FFA.

2. The FFA advisor had the greatest amount of influence on the members' decision to join the FFA. Non-members were not influenced by anyone, other than themselves.

3. Personal contacts by the FFA advisor and FFA members were the most prominent means of orienting prospective vocational agriculture students on the FFA.

4. Prospective FFA advisors received instruction on the FFA through their student teaching.

SHRY, CARROLL LEE. Job Entry Competencies Needed in Ornamental Horticulture. Thesis, M.S., 1968, West Virginia University. 125 p. Library, West Virginia University, Morgantown.

Purpose-- The purpose of the study was to determine the competencies needed by ornamental horticulture graduates of Maryland high schools to become gainfully employed in the horticulture industry, and to construct a suggested course outline for ornamental horticulture students at the secondary level.

Method-- Data for this study were collected through questionnaires mailed to one hundred members of the Maryland Nurserymen's Association. Of the one hundred questionnaires mailed, sixty usable forms were returned. The results were processed through the facilities of the West Virginia University Computer Center.

Findings-- Maryland nurserymen want employees who have had instruction in ornamental horticulture along with work experience.

Course outlines and instructional programs should be based on the needed competencies to become gainfully employed in the ornamental horticulture business.

Maryland nurserymen believe the employees should have a comprehensive training in the following: scientific and common names of plants, propagation by cuttings, seeds, grafting and budding, identification of plant insects and diseases, forcing plants to bloom and selecting plants for a flower bed.

The nurserymen recommended that the employees have a general training in the following areas: controlling weeds in horticultural crops, digging, transplanting and pruning ornamentals, lawn maintenance and care, growing house plants in the greenhouse, growing vegetable plants for commercial market, caring for cut flowers, arranging flowers, growing bulbs and corms, growing annuals and perennials, soil sterilization, compost and manures, mixing soluble fertilizers, potting soil mixtures and watering plants in the greenhouse and nursery.

Ventilating the greenhouse was the only competency that the nurseryman thought they should teach.

Some nurserymen expressed a definite need for agriculture mechanics and business management techniques.

There are jobs available in ornamental horticulture for those who are interested, amenable to training, and willing to work.

A four-year course of instruction for ornamental horticulture was an outgrowth of this study and included as part of it.

SKIDMORE, HAROLD K. A Follow-up Study of Students of Vocational Agriculture at Sutton High School From 1930 to 1960. Problem, M.S., 1967, West Virginia University. 51 p. Library, West Virginia University, Morgantown.

Purpose-- The purposes of this study were to determine the number of former students of vocational agriculture at Sutton High School who were farming full-time, farming part-time, or were engaged in agricultural related occupations. Another aspect of this study was to determine what vocational agriculture had contributed to former students.

Method-- Questionnaires were sent to former students of vocational agriculture of Sutton High School. The data from the questionnaires were analyzed and conclusions drawn.

Findings-- The summarized data revealed that ten per cent of the former students were farming full-time, 25 per cent were farming part-time, and 16 per cent were employed in agriculture related occupations. A total of 51 per cent were employed in production agriculture, full- or part-time, or related occupations. The summarized data also showed that 15.3 per cent of the dropouts were farming full-time or part-time, but only 9.3 per cent of the graduates were full- or part-time. There was 17.7 per cent of the graduates employed in agriculture related occupations, and only 7.6 per cent of the dropouts were working in related fields.

Eighty-nine per cent of the students surveyed graduated from high school and 11 per cent dropped out before graduation. Of the high school graduates, 24.3 per cent attended college and 15.3 per cent of the dropouts attended a trade, technical, or vocational school. Of the high school graduates starting to college only 7, or 6.5 per cent did not graduate. The data also shows that of the nine former students attending agricultural college, all had completed four years of vocational agriculture in high school.

The data indicated that students who had completed four years of vocational agriculture were more likely to be engaged in farming or some related agricultural occupation than was the student who had completed only one year of vocational agriculture. There was no conclusive proof that the time removed from high school had any influence on the choice of an agriculture occupation.

A total of 97 per cent of the former students responding to the questionnaire had favorable comments concerning their experiences in vocational agriculture and the Future Farmers of America.

SMITH, CHARLES W. Utilization of Occupational Information in Agriculture by Guidance Counselors and Teachers. Thesis, Ph.D., 1968, The Pennsylvania State University. 127 p. Library, The Pennsylvania State University, University Park.

Purpose-- To determine effective methods of utilization of guidance information and agricultural occupations information by counselors and teachers. Six experimental methods were: (1) teachers and counselors received prepared resource materials titled, Planning for a Career in Agriculture, were asked to teach a unit on occupational guidance in agriculture, but did not receive any in-service education; (2) teachers and counselors received the resource materials, were asked to teach the unit, and attended five two-and-one-half hour in-service class sessions; (3) teachers and counselors received the resource materials, were asked to teach the unit, and received two two-hour in-service education visits in their individual schools; (4) teachers and counselors received the resource materials, were not specifically asked to teach the unit, and did not receive any in-service education; (5) teachers and counselors received the resource materials, were not specifically asked to teach the unit, but attended the five in-service education classes; and (6) teachers and counselors did not receive the resource materials, were not asked to teach the unit, and did not receive any in-service education.

Method-- Eight schools were randomly assigned to each treatment group. Forty-eight teachers, 48 counselors, and 709 ninth and tenth grade students were involved. On the day that the instructional materials were delivered to each school, the students were administered the Vocational Agriculture Interest Inventory. Teachers asked to teach the unit were requested to use eighteen hours of class time. Following the treatments, students again completed the interest inventory and took a test of knowledge of guidance and agricultural occupations information and an attitude test.

Pretest agriculture interest score and I.Q. were selected as covariates for the analysis of covariance to test for differences among adjusted school and student mean test scores. Significant canonical correlations were determined among ten semantic differential attitude concepts and four other criterion measures.

Findings-- On knowledge of guidance information, scores for groups 1 and 3 were higher than for groups 2, 4, 5, and 6. There were no differences among treatments on knowledge of agricultural occupations information. The agricultural interest scores for groups 4 and 5 were higher than for group 2. On six of ten stimulus concepts treatment group 3 had the highest semantic differential attitude score.

There were positive relationships of agricultural interest, father's occupation, and student I.Q. with student expressed intentions to elect agriculture in the next school year, to obtain post-high school education, and to enter an agricultural occupation. The first significant canonical correlation was for student attitude toward an agricultural production occupation and an agricultural profession with score on the Vocational Agriculture Interest Inventory; a second was for student attitude toward the guidance counselor and the value of self analysis correlated with the guidance information test score.

SMITLEY, KENNETH R. The Use of Visual Material in Teaching Ornamental Horticulture. Paper, M.Ed., 1968, The Pennsylvania State University. 14 p. + 269. Library, The Pennsylvania State University, University Park.

Purpose-- To provide teachers of high school and post-high school classes in ornamental horticulture additional visual teaching materials in woody ornamental plant identification that students might use in self instruction.

Method-- The study included the development of a workbook of drawings and descriptions along with a set of color slides. Wood ornamental plants were classified and decisions made as to appropriateness for inclusion. Color slides were taken during the seasonal period most effective for teaching identification. The drawings were assembled from a variety of publications.

Findings-- The classification adopted was (1) Deciduous Plants - large trees, small trees, large shrubs, small shrubs, (2) Broadleaf Evergreens - large shrubs, small shrubs, (3) Narrowleaf Evergreens - large trees, small evergreen trees, evergreen shrubs, (4) Ground Covers - deciduous ground covers, evergreen ground covers, and (5) vines - deciduous vines, evergreen vines.

Plants included are those of hardiness of Zones 4 and 5. They had been recommended by Pennsylvania nurserymen as reported by Deckman (1967). Some were added after consultation with university horticulturalists. The list should be open to continuous revision.

Recommendations were made that (1) the drawings, descriptions, and slides be changed as experience with their use in instruction is gained, (2) more slides showing seasonal changes in the plants should be added, (3) development of a set of overhead projector transparencies be undertaken, (4) a mechanized unit for individual instruction be developed, (5) the effectiveness of this approach to individual instruction be compared with other methods, and (6) applications should be extended to greenhouse plant materials, garden flowers, weeds, turfgrasses and related areas of study where identification of plants is important.

SOMERS, MELVIN C. Follow-up Study of Male Graduates of Vermont High Schools Offering Vocational Agriculture, Classes of 1957. Thesis, M.S., 1968, University of Maryland. 99 p. Library, University of Maryland, College Park.

Purpose-- To determine certain characteristics of the male graduates, classes of 1957, from Vermont high schools having vocational agriculture in their curricula.

Method-- A questionnaire was sent to 167 male graduates of Vermont high schools offering vocational agriculture. One hundred eighteen returned useable questionnaires.

Findings-- 1. Belonging to various organizations while attending high school helped an individual in later life with his job and his relations with other people and in civic affairs.

2. Membership in organizations while in high school was an important part of an individual's education.

3. Distance from an individual's home to school was a limiting factor regarding participation in school organizations.

4. Those persons participating in organizations in school were primarily the ones who participated in their community organizations later in life.

5. There was no difference between those who belonged to FFA and those who did not in regard to leadership position, income and community participation in later life.

TRAVER, LEE A. Guidelines For Off-Farm Agricultural Experience Programs. M. Ed., Study, 1968, Cornell University. 71 p. The Agricultural Education Division, Rural Education Department, New York State College of Agriculture, Cornell University, Ithaca.

Purpose-- The purpose of the essay was to formulate guidelines for planning, establishing, and operating experience programs in vocational education for training in off-farm agricultural occupations.

Method-- The method involved a review of literature pertaining to experience as a means of learning and a review of selected, existing work experience programs. Guidelines for experience programs in vocational education were inferred from the rationale for experience as a means of learning. Work experience definitions, work experience program descriptions, and lists of purposes, advantages, criteria, and guiding principles were cited. From these three sources guidelines were inferred and formulated to apply to experience programs in off-farm agricultural occupations.

Findings-- The philosophical review of literature attests to the fact that experience is an effective means of learning. The degree of learning is dependent on the educative characteristics of experience. Some of the guidelines formulated are similar to those used for evaluating supervised farming programs. Certain criteria of supervised farming programs are not applicable to off-farm agricultural experience programs. It was concluded that there are some criteria needed which are very specific and would apply only to experience programs for off-farm agricultural occupations. The total role and responsibility of the parents is not as vital in experience programs in off-farm occupations as compared to supervised farming programs.

Forty-one guidelines for planning, establishing, and operating experience programs in off-farm agricultural occupations were formulated and listed under eight major categories which are: general, program planning, training station, supervision and coordination, student development, legal requirements, and evaluation of experiences.

VOG, WALLACE M. Factors Associated with Membership and Non-Membership in FFA by Vocational Agriculture Students in Oregon. Thesis, M.S., 1968, University of Maryland. 184 p. Library, University of Maryland, College Park.

Purpose-- To identify factors associated with membership and non-membership in FFA by vocational agriculture students and to compare certain charactersitics and activities between advisors of high membership and low membership chapters.

Method-- Data were obtained by use of student and advisor questionnaires. The student questionnaire was mailed to all students in eight vocational agriculture departments, and the advisor questionnaire was mailed to all FFA chapter advisors in Oregon. The chi-square test of association and percentile distribution were used to determine differences between the responses of members and non-members of the FFA and between the responses of advisors of high FFA membership and advisors of low FFA membership departments.

Findings-- Results of the study showed that FFA members were more likely to: (1) live on a farm, (2) work in an agricultural business in a rural area, (3) have more relatives who were FFA members, (4) work more during the school year, and (5) participate more in student government than were non-members of the FFA. (6) There were no significant differences in characteristics and activities between advisors of high membership and low membership chapters except in FFA leadership conferences where more of the former were more likely to attend.

WEST, HATTIE P. An Analysis of Certain Needs and Interests of 4-H Club Members Ages 14-19, As A Basis for Program Planning. Thesis, M.S., 1969, University of Maryland. p. Library, University of Maryland, College Park.

Purpose-- To identify certain needs and interests of older 4-H club members as a basis for program planning, using the life history approach.

Method-- Data were collected with a life history questionnaire, a biographical data supplement and the Adaptability Test Form A, from 308 4-H members representing thirteen states who participated in the Citizenship Short Course at the National 4-H Club Center in Washington, D.C., during June and July, 1968.

Chi-square contingency tables and the t-test were used to test for differences.

Findings-- 1. Majority of the boys and girls were from predominantly rural areas, were sixteen and seventeen years old and had completed the eleventh or twelfth grades. They were junior leaders, had been a 4-H member for seven years or more and had completed ten or more projects.

2. Significant differences were found for low and high 4-H experienced groups in their responses to the life history inventory, number of activities participated in and the scores on the adaptability test.

3. High 4-H experienced group had served in more elected offices, participated in more activities, had hopes of becoming professionals and scored higher on the adaptability test than the low group.

4. Low 4-H experienced group had devoted more time to religious activities each week, owned more books, had hopes of becoming skilled workers and scored lower on the adaptability test.

5. No significant difference was observed in the amount of satisfaction gained from the total 4-H program between boys and girls.

6. There was a high correlation between the amount of satisfaction gained from the 4-H club program and the needs and interests of youth.

ZEIGLER, MARILYN S. The Relationship of Personal and Social Characteristics to Leadership Position Held by 4-H Members. Thesis, M.S., 1967, University of Maryland. 115 p. Library, University of Maryland, College Park.

Purpose-- To identify some of the characteristics associated with leadership experience of teenage 4-H members.

Method-- Subjects were 259 boys and 511 girls from 22 states who had participated in one-week 4-H Citizenship Course at the National 4-H Center in Washington, D.C.

Statistical treatments included factor analysis, chi-square contingency tables, contingency coefficient, and the t-test for independent means. The sample was separated by sex and by leadership grouping. The low leadership group included those who had been elected president to extra 4-H organizations one or fewer times. Those in the high leadership group had been elected presidents two or more times in extra 4-H organizations.

Findings-- 1. There was a significant difference for both boys and girls on (a) leadership experience in 4-H and extra 4-H youth organizations, and (b) perception of scholastic ability.

2. Significant differences were found for the girls on religious involvement and social relations.

3. A significant relationship between leadership and ease in social situations existed for the boys.

4. No significant relationships were found between leadership and scores on a verbal ability test.

ANNIS, W. H. Vocational Education in Life Science, Recreation and Agricultural Course Options and Suggested Courses of Study for New Hampshire High Schools. Prepared cooperatively by New Hampshire Agricultural Teachers' Association; Vocational-Technical Division, State Department of Education; and Agricultural Education Program, University of New Hampshire, Durham.